## Proceedings of the Indian Academy of Sciences (Earth and Planetary Sciences)

Vol. 90, 1981

## CONTENTS

Windows to early solar system processes. Refractory inclusions in the CV and CM chondrites	1
Excitation of electromagnetic lower hybrid instability in the region of bouncing electron beams	27
Probable maximum point rainfall estimation for the southern half of the Indian peninsula O N Dhar, A K Kulkarni and P R Rakhecha	39
Induced magnetic variations at Shillong in relation to regional geology	55
Seismic ray direction anomalies and relative residuals of earthquakes recorded at Gauribidanur array Avadh Ram, Lalji Yadav and O P Singh	63
A T-shaped four-electrode configuration for resistivity profiling over thin vertical conducting veins	
S V Suryanarayana Rao, S Murali and V L S Bhimasankaram	75
A simple dynamic method for the evaluation of the piezoelectric activity of rock samples Y Sreedhar Murthy, S Murali and V L S Bhimasankaram	85
Magnetic, chemical and x-ray studies of magnetites from Tamil Nadu, India	91
A simulation technique for the determination of atmospheric water content with Bhaskara satellite microwave radiometer (SAMIR)	
	105
The Neogene/Quaternary boundary in India: A review	111
Short-period oscillations in outgoing longwave radiation over the summer monsoon region	125

xii Contents

On the formation of a sharp layer of metallic constituents at sunrise in the lower thermosphere	
J S Shirke, R Sridharan, S P Gupta, A D Danilov, A A Pokhunkov,V K Semenov and V A Varfolomeev	141
Determination of partial geoidal parameters over the Indian sub-continent	147
Palaeoclimatic inferences from the behaviour of radiocarbon dates of carbonates from sand dunes of Rajasthan	155
	100
Thermoluminescence dating of pottery from Sringaverapura—A Rama- yana site	161
Rocket measurements of ozone concentrations in the stratosphere and mesosphere over Thumba	173
Complex seismic signatures and narrow azimuthal study of Hindukush earthquakes	189
Characteristic curves for interpreting gravity anomalies of vertical cylinders and horizontal circular discs	
	197
Seepage loss from a canal in Sri Lanka measured using tritium tracerJ K Dharmasiri, K G Dharmawardena, W Manchanayake, N M G Navaratna, D A Wickremarachchi and P S Goel	211
Archaean crustal thickness of greenstone granite belts of South India C S Pichamuthu, R Srinivasan, Fareeduddin and Appaji Amrit Bhasker	217
Radiometric age of the snout ice of Nehnar glacier.	
N Bhandari, D I Bhatt, V N Nijampurkar, R K Singh, D Srivatsavaand C P Vohra	227
A possible explanation of conductivity anomalies near Ujjain and Jaipur	237
Solar activity and Indian weather/climate	
H N Bhalme, R S Reddy, D A Mooley and Bh V Ramana Murty	245
Atmospheric temperature profile for a tropical region from TIROS-N microwave sounding unit B S Gohil, A K Sharma and P C Pandey	263
Magnetic properties of mafics and ultramafics from Eastern Ghats  V Bhaskara Rao and A Lakshmipati Raju	273
	0

	**
Contents	X11

Water vapour content over two Indian sites tested for a millimeter-wave radio observatory	281
Horizontal moisture distribution from TIROS-N high resolution infrared sounder (HIRS)Vijay K Agarwal and Ashajayanti Loganathan	291
Envelope soliton solution for finite amplitude equatorial waves  R K Jain, B N Goswami, V Satyan and R N Keshavamurty	305
Simulation studies of satellite spectral radiances for 11·1, 8·3, 7·3, 6·7 µm IR bands	327
On the origin of the low energy cosmic rays from stellar sources  S Biswas, N Durgaprasad and Sushma S Trivedi	337
Irradiation history and atmospheric ablation of meteorites: Results from cosmic ray track studies	345
Records of ancient cosmic radiation in extraterrestrial rocks	359
Fission tracks and cooling rates of meteorites	383
Fission track geochronology of India	389
Precision, accuracy and meaning of fission track ages G Poupeau	403
Application of solid state nuclear track detectors in fission studies  R H Iyer	437

